



The artificial catchment 'Chicken Creek': A research site to study the development of biogeochemical cycles in initial ecosystems

W. Schaaf (1), W. Gerwin (2), I. Kögel-Knabner (3), J. Zeyer (4), and R.F. Hüttl (1)

(1) Brandenburg University of Technology, Soil Protection and Recultivation, Cottbus, Germany (schaaf@tu-cottbus.de), (2) Brandenburg University of Technology, Research Center for Landscape Development and Mining Landscapes, Cottbus, Germany, (3) Technische Universität München TUM, Soil Science, Freising-Weihenstephan, Germany, (4) ETH Zurich, Environmental Microbiology, Zurich, Switzerland

The artificial catchment 'Chicken Creek' is the main research site of the Transregional Collaborative Research Center SFB/TRR 38. Funded by the Deutsche Forschungsgemeinschaft, the SFB/TRR 38 has gathered more than 50 scientists from BTU Cottbus, TU Munich and ETH Zurich to study the patterns and processes – and their interaction – of the initial phase of ecosystem development in an artificial catchment.

The catchment was constructed in 2003 to 2005 in the Lusatian lignite-mining area close to Cottbus, Germany. It has an area of 6 ha including a small lake and is mainly composed of a 2-4 m layer of sandy to loamy Quaternary overburden sediments above a 1-2 m clay layer that seals the total catchment area at the bottom. No restoration, planting or other reclamation measures were carried out.

Main research objectives are:

Which abiotic and biotic patterns and processes are regulating the initial phase of ecosystem development?

How do processes interact with abiotic and biotic patterns?

Which patterns and processes can be used to define development stages?

Which parameters are suitable for generalization and application to other initial ecosystems?

The presentation will present the research concept of the SFB/TRR 38, the construction process of the catchment and first results.